

FY 1992 **FINAL PRODUCT** Task 2.4
Bald Eagle Management Guide for Land
Planners/Owners

THE BALD EAGLE

i n v i r g i n i a



a management guide for landowners

THE BALD EAGLE in Virginia



a management guide for landowners

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Cover: Sunset on James River; photo by William S. Portlock

Cover Inset: Adult bald eagle; photo by Linda Richardson

Above: Eagle sunrise on Rappahannock River; photo by William S. Portlock





Historically, bald eagles were plentiful along major river systems and coastal areas throughout eastern Virginia. Here they fed from the bountiful shallows of a vast tidal system and prospered. However, habitat loss associated with human settlement, and later the use of persistent pesticides (such as DDT) for crop management, resulted in a dramatic decline in the population. By the late 1960's most breeding populations had been decimated by eggshell thinning and associated low productivity.

Concern for these populations prompted the elevation of the bald eagle to endangered status and led to a national effort to restore historic populations. Since the nationwide ban on most persistent pesticides, many populations have experienced gradual recoveries in both productivity and total numbers. In Virginia, the breeding population has steadily increased from an estimated low of approximately 32 pairs in the late 1960's to 151 pairs in 1993.

Although the bald eagle population has rebounded very well over the past 15-20 years, current patterns of habitat loss threaten to halt prematurely or even to reverse this recovery. Shoreline development throughout coastal Virginia is rapidly reducing both occupied and potential breeding habitat and without question poses the single greatest threat to the population. Bald eagles in Virginia will survive and reach sustainable numbers only if there is adequate habitat where they may nest, roost and forage, free from human disturbance.

Bald eagles possess value beyond their role as consumers in a complex ecosystem. Over the past 200 years, as the United States symbol, the bald eagle has embodied the ideal of freedom. Over this time, no other species has become more interwoven in the fabric of American life. This booklet is provided as a means to inform the general public of problems currently faced by bald eagles in Virginia, and to emphasize ways in which landowners may help.



The bald eagle is one of the largest birds of prey in North America with a wingspan of 6-8 feet. Named for its distinctive plumage, the adult bird is unmistakable with a dark brown body that contrasts strikingly with its white head, neck and tail. However, the white plumage is not acquired until reaching breeding age (4-5 years). Immature birds are brown throughout with white blotches under the body feathers and wings. Birds with immature plumage are frequently mistaken for vultures but fly with their wings stretched flat, not tilted upward as in the turkey vulture.

Left: Pair of eagles perched near nest site; photo by Bryan Watts.

Top: Eagle in adult plumage; photo by Tim Wright.

Above: Eagle in immature plumage; photo by William S. Clark.

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Bald eagles nest adjacent to or in the vicinity of large bodies of water, typically in remote areas with undeveloped shorelines. On the coastal plain of Virginia, eagles are known to nest along the ocean, reservoirs, and inland bays, but the majority nest along the shoreline of the Chesapeake Bay and its four major tributaries (Potomac, Rappahannock, York, and James rivers).

Bald eagles build very large, often conspicuous nests. The body of the nest is built of large sticks, but the top surface is covered with softer plant materials such as pine bows, fresh leaves, and clumps of grass. When a nest is first built it typically measures three to five feet in diameter. Over the years, nests are gradually enlarged and may reach up to 10 feet in diameter and 15 feet in depth. Although it is not uncommon for breeding pairs to build new nests from time to time (a breeding territory may contain two to several nests), some nests have been known to be in use for over 25 years.

Because eagles build large nests, they require large, old trees for structural support. Trees selected for nesting are generally the largest trees in a woodlot, often towering above the surroundings. This allows the adult birds easy access to the nest, as well as an unobstructed view of the surrounding landscape. In Virginia, old loblolly pines are the most frequently used trees for nesting followed by other pine and deciduous species.

Breeding Activity

In the mid-Atlantic region, adult eagles typically remain on or near their breeding territories year round. Nest building and repair begins in November and peaks in mid-winter but may be observed during any month of the year. Courtship flights and related behavior are most frequently observed January-February and eggs are laid between mid-January and late March. Most eggs hatch between early March and early May and eaglets remain in the nest



Clockwise from above:

Two young eaglets look out from their nest over an unbroken forest canopy; photo by Craig Koppie.

Two, 2-week old eaglets in nest (note nest cup and plant lining); photo by Craig Koppie.

Two 4-week old young; photo by Keith Cline.

Young eagle near fledging from nest; photo by Keith Cline.



Typical situation for bald eagle nest. Nests are usually located in large, prominent trees with good flight access on all sides. The nest is positioned in the uppermost triple-line so that a canopy forms over the nest to shade the birds and their young from the sun. Trees are frequently near dead snags or other prominent trees that are used for perching.



for 11 to 12 weeks. Most young are capable of sustained flight by late July but remain dependent on the parents and in the general vicinity of the nest for several more weeks. After this time, young may wander throughout the Chesapeake Bay and beyond.

Nest Site Management

Breeding eagles are most sensitive to human disturbance when they are in the early stages of nesting. Disruptive activities that occur when pairs are

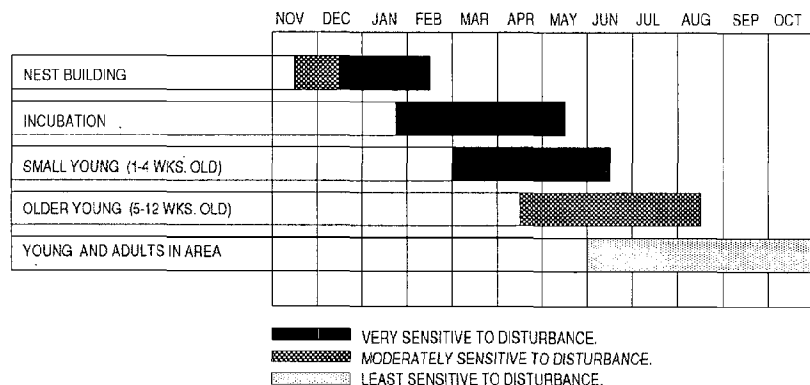
courting, building nests, laying eggs, or incubating are most likely to result in nest failure. In general, no human activities should be permitted within approximately 250 meters of the nest tree (area around the nest where eagles are most sensitive) between November 15 and July 15. Outside the breeding season, some activity is acceptable but should be kept to a minimum. Land-use changes such as timber cutting, and the construction of new buildings and roadways should be restricted within 400 meters of the nest during the breeding season. Major land changes such as the development of commercial and industrial sites should be discouraged within this distance. Timber management should be consistent with maintaining good nesting habitat and should be conducted during the non-breeding season.

It should be noted that the guidelines above are only general rules of thumb. Each nesting situation is unique and a number of factors such as topography, surrounding vegetation, etc. should be taken into account when developing guidelines. **Always consult with the Virginia Department of Game and Inland Fisheries or the U.S. Fish and Wildlife Service for recommendations for a specific nest site.**



Above: Leaving a tree buffer when harvesting timber provides important nesting habitat; photo by Bryan Watts.

Sensitivity to Disturbance



2



trees
crotch
Nest

1.



*I*n addition to the resident breeding population, Virginia supports several known areas where sub-adult and non-breeding adults congregate. These "concentration" areas may form during the summer or winter months and are always associated with an abundant food source (typically a large fish population in summer and waterfowl concentrations in the winter).

In Virginia, summer concentrations tend to be much larger than winter. Although eagles from the Virginia population account for a portion of these birds, it appears that many come from outside the state. Increasing evidence suggests that birds from both the southeastern and northeastern states converge on these sites in Virginia during mid-summer.

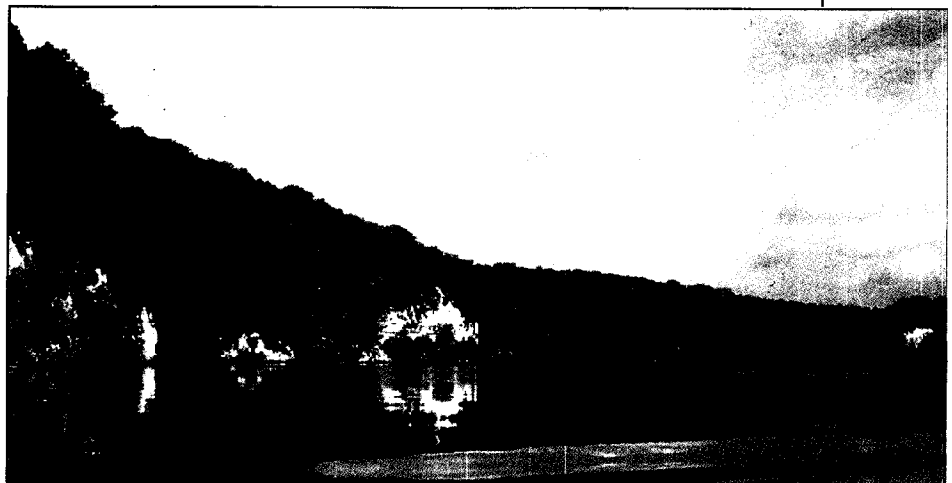
Eagle concentration areas are rare in Virginia. Protection and management of these areas may be more important to the continued recovery of the population in Virginia and throughout the East Coast than any other habitat.

Because eagles congregate to exploit an abundant food source, care should be taken to protect prey populations from environmental contaminants. Release of harmful pollutants into the food chain in Virginia could be detrimental to breeding populations along the entire Atlantic Coast.

Bald eagles within concentration areas congregate in communal roosts at night. These roosts pro-

vide protection from the weather and disturbance. Trees used for roosting are similar in structure to those used for nesting. Large trees with open canopies are preferred because they allow birds direct access to limbs for perching. Most roost sites are situated in clumps of large trees situated in isolated woodlots with easy access to primary foraging areas.

Eagles within communal roosts are sensitive to human activity. Areas known to be used by bald eagles for roosts should be protected from human disturbance and significant changes in land use. All land within 250 meters of known roost areas should be closed to timber cutting, land clearing, and



Top: Adult eagle on typical perch tree used for foraging and roosting. Note that open crown allows easy access to limbs; photo by Bryan Watts.
Above: Eagle concentration area on the Rappahannock River; photo by William S. Portlock.

construction to maintain the large trees needed for perching and a buffer of trees between the eagles and the sight of human activities.



Bald eagles are opportunistic foragers, preying on fish, birds, and small mammals, as well as scavenging carrion of various types. In the summer, when availability is high, fish are the primary component of the diet. Eagles in Virginia feed on shad, catfish, carp, menhaden, perch and eels depending on their seasonal availability. In the fall and winter, when the number of waterfowl increases in the Bay,

eagles shift their foraging attention to waterfowl and supplement their diet to a greater extent with carrion.

Eagles spend most of their foraging time surveying the landscape for prey from a prominent perch along the shoreline of rivers, marshes, and bays. Trees used as foraging perches are very similar to those used for nesting. Perch trees are large with open crowns to allow unobstructed flight access to limbs. Both pine and deciduous trees (live or dead) may be used for foraging perches. Large trees on high bluffs appear to be preferred. Because eagles often take fish on or near the surface, favorite perches are typically along shorelines adjacent to

shallow water.

Eagles hunt from perch trees at any time during the daylight hours and may be flushed from their perch if disturbed. Boating activity close to the shoreline is particularly disruptive to feeding birds. Human activity on the shoreline or adjacent uplands is equally disruptive. Repeated disturbance may cause foraging birds to abandon otherwise productive foraging sites. Development of waterfront property may also result in the permanent loss of foraging areas. Loss of prominent shoreline sites, particularly within concentration areas, may have far reaching impacts on the long-term recovery of the population.

Bald Eagle Regulations and Contacts

In 1940, congress passed the Bald Eagle Protection Act to protect declining eagle populations. The current form of the act as well as Virginia state law prohibits the "taking" of any bald eagle. Taking under the Act is defined as "to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Violation of the Eagle Protection Act can result in fines up to \$100,000, imprisonment for 1 year, or both. The bald eagle is also protected under The Endangered Species Act, and the Migratory Bird Treaty Act, both with restrictions and penalties similar to the Eagle Protection Act. **It is important to note that a change in status from endangered to threatened will have no effect on their legal protection.**

The Commonwealth of Virginia also has laws designed to protect bald eagles. The Virginia Department of Game and Inland Fisheries (VDGIF) has legal jurisdiction over issues relating to bald eagle protection. The VDGIF through its environmental services section will review proposed projects from both regional and local governments, as well as private individuals to identify possible impacts. Such reviews are encouraged and usually result in a considerable savings in time and money to the landowner. The two agencies below are the lead agencies for endangered species reviews and recommendations in Virginia.

Virginia Department of Game and Inland Fisheries
P.O. Box 11104
Richmond, Virginia 23230-1104
(804) 367-1000

U.S. Fish and Wildlife Service
P.O. Box 480
White Marsh, Virginia 23183
(804) 693-6694



The Center for Conservation Biology is a non-profit organization dedicated to finding practical solutions to current environmental problems by integrating research, education and management. Only through the exchange of information and ideas may we hope to maintain the rich diversity of the mid-Atlantic region.